



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,873	09/29/1999	MAURITIUS SEEGER	D/99487	4555

7590

03/26/2004

JOHN E BECK
XEROX CORPORATION
XEROX SQUARE 20A
ROCHESTER, NY 14644

EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
----------	--------------

2612

12

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/408,873

Applicant(s)

SEEGER ET AL.

Examiner

Justin P Misleh

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18 - 20 and 25 - 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18 - 20 and 25 - 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to Claims 18 – 20, 29, and 30 have been considered but are moot in view of the new grounds of rejection, which are stated below.
2. The indicated allowability of Claims 25 – 28 is withdrawn in view of the newly discovered prior art. Rejections based on the newly cited prior art as stated below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 18 – 20, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Spruck in view of Chevrette et al.
5. For **Claims 18 and 29**, Spruck discloses, as shown in figures 1 and 2 and as stated in columns 3 – 5, an image acquisition system and method, comprising a plurality of cameras (8 and 9) operable to record an area having multiple views (F' and N'), the area includes one or more objects (human head), wherein each camera (8 and 9) is operable to record at least one of the views (converging focal points N and F) to produce one or more camera images (stereoscopic); and an image processing system (personal computer 6) coupled to the plurality of cameras (8 and 9) and operable to combine the plurality of camera (8 and 9) images to produce

Art Unit: 2612

and composite image (see column 4, lines 24 – 30); wherein at least one lens of the plurality of cameras (8 or 9) shifts relative to at least another lens of the plurality of cameras (8 or 9) for adjusting the view the at least one lens records of the area.

The plurality of cameras (8 and 9) shifts simultaneously, relative to each other, so as to adjust a converging focal point of plurality of cameras (8 and 9). For instance, an adjustment from focal point N would yield focal point F. Thus, since each of the plurality of cameras (8 and 9) has an associated lens, at least one lens of the plurality of cameras (8 or 9) shifts relative to at least another lens of the plurality of cameras (8 and 9) for adjusting the view.

Spruck does not disclose wherein at least one of the cameras has an offset lens to produce an oblique field of view. On the other hand, Chevrette et al. disclose, as shown in figures 1D, 2, and 3A and as stated in columns 6 (lines 34 – 67), 7, and 8 (lines 1 – 39), a camera that has an offset lens (10) to produce an oblique field of view. The lens (10) is able to be positioned to a plurality of predetermined offset positions within a lens plane (L – with the solid black lines and the dotted black lines representative of light rays when the lens is positioned in a plurality of predetermined offset positions I and I'), the lens plane located substantially orthogonal to an optical axis of the lens (clearly shown in figure 2); and an image sensor (detector array) having a relatively planar surface (12) and operable to detect light rays originating from one or more objects within an area having a plurality of views, wherein each view is recorded while the lens is positioned at a corresponding one of the predetermined offset positions (see figure 1d). Chevrette et al. teach of a camera system that displaces the lens (10) by a distance (d), thereby displaying the optical axis of the lens, as well as the focal point, and the image on the image plane by the same distance while capturing an image at each offset position.

Art Unit: 2612

As stated in columns 1 (lines 34 – 67) and 2 (lines 1 – 36), of Chevrette et al., at the time the invention was made, one with ordinary skill in the art would have been motivated to include a camera that has an offset lens to produce an oblique field of view and associated method thereof, as taught by Chevrette et al., in the image acquisition system and method thereof, of Spruck, as a means to provide an apparatus for capturing a high resolution image using a simple low power circuit configuration so as to reduce aliasing occurring during typical imaging via a focal plane array. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include a camera that has an offset lens to produce an oblique field of view and associated method thereof, as taught by Chevrette et al., in the image acquisition system and method thereof, of Spruck.

6. As for **Claim 19**, Spruck discloses, the image acquisition system of Claim 18, wherein all the camera images are recorded simultaneously (stereoscopic).

7. As for **Claims 20 and 30**, according to *The American Heritage® Dictionary of the English Language, Fourth Edition*, a mosaic is a composite picture made of overlapping, usually aerial, photographs. Thus, as shown in figure 1 and as stated in column 4 (lines 21 – 32), Spruck discloses, the image acquisition system of Claim 18 and method of Claim 29, wherein the image processing system (6) is operable to produce the composite image by mosaicing the camera images.

8. **Claims 25 – 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Chevrette et al.

Art Unit: 2612

9. For **Claim 25**, Anderson discloses, as shown in figures 2 and 6 – 10 and as stated in columns 6 (lines 8 – 67), 7, 8, 9, and 10 (lines 1 – 14), a method of scanning with a camera, comprising the steps of:

(a) recording a first view (positions 1, 2, or 3) of an area having one or more objects (scene sections 1, 2, or 3) while a lens (220) is positioned in a plane substantially orthogonal to an optical axis (236) of the lens (220) while the camera is at a first position (see figures 2, 6, and 9);

(b) recording a second view (positions 1, 2, or 3) of the area (scene sections 1, 2, or 3) while the lens (220) is positioned in the plane after the camera is rotated to a second position (positions 1, 2, or 3 as shown in figures 6 and 9); and

(c) combining all recorded views to produce a composite image having a higher resolution than the resolution of one or more of the recorded views (see figures 8 – 10).

While Anderson discloses a lens (220) that is positioned in a plane substantially orthogonal to an optical axis (236) of the lens (220), as shown in figure 2, Anderson does not disclose a camera wherein the lens is positioned at an offset position within in a plane substantially orthogonal to an optical axis of the lens.

On the other hand, Chevrette et al. disclose, as shown in figures 1D, 2, and 3A and as stated in columns 6 (lines 34 – 67), 7, and 8 (lines 1 – 39), a lens (10) that is able to be positioned to a plurality of predetermined offset positions within a lens plane (L – with the solid black lines and the dotted black lines representative of light rays when the lens is positioned in a plurality of predetermined offset positions I and I'), the lens plane located substantially orthogonal to an optical axis of the lens (clearly shown in figure 2); and an image sensor (detector array) having a

Art Unit: 2612

relatively planar surface (12) and operable to detect light rays originating from one or more objects within an area having a plurality of views, wherein each view is recorded while the lens is positioned at a corresponding one of the predetermined offset positions (see figure 1d).

Chevrette et al. teach of a camera system that displaces the lens (10) by a distance (d), thereby displaying the optical axis of the lens, as well as the focal point, and the image on the image plane by the same distance while capturing an image at each offset position.

As stated in columns 1 (lines 34 – 67) and 2 (lines 1 – 36), of Chevrette et al., at the time the invention was made, one with ordinary skill in the art would have been motivated to include a method using a lens that is positioned at an offset position within in a plane substantially orthogonal to an optical axis of the lens, as taught by Chevrette et al., in the method of scanning with a camera, of Anderson, as a means to provide a method of capturing a high resolution image using a simple low power circuit configuration so as to reduce aliasing occurring during typical imaging via a focal plane array. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include a method using a lens that is positioned at an offset position within in a plane substantially orthogonal to an optical axis of the lens, as taught by Chevrette et al., in the method of scanning with a camera, of Anderson.

10. As for **Claim 26**, Anderson disclose, as clearly shown in figures 8 – 10, the method of Claim 25, further comprising between step (b) and (c), the step of:

(d) recording a next view (positions 1, 2, or 3) of the area (scene sections 1, 2, or 3) while the lens is positioned at the offset position (see obvious ness set forth above) within the plane while the camera is rotated to a third position.

Art Unit: 2612

11. As for **Claim 27**, Anderson disclose, as clearly shown in figures 8 – 10, the method of Claim 26, further comprising the step of:

(e) repeating step (d) until all view of the area have been recorded.

12. **Claim 28** is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Chevrette et al. in further view of Kang et al.

13. For **Claim 28**, Anderson view of Chevrette et al. show a method a method of scanning with a camera, comprising the steps of recording a first view of an area while a lens is positioned at an offset position within in a plane, recording a second view of the area while the lens is positioned in the plane after the camera is rotated to a second position, and combining all recorded views to produce a composite image having a higher resolution than the resolution of one or more of the recorded views. However, Anderson in view of Chevrette et al. do not show wherein step (b) further comprises the step of recording the second view of the area while the lens is position at the offset position with the plane while the camera is rotated 180 degrees to the second position.

On the other hand, Kang et al. also shows, as seen in figures 1- 3 and column 3 (lines 30 – 60), a method of scanning with a camera including at least two recorded views of an area wherein the camera (100) is in a first position to record a first view (314) and the camera is rotated (about axis 276) to a second position, 180 degrees from the first position, to record a second view (319) of the area. As stated in column 1 (lines 10 – 60), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a method of scanning with a camera wherein the camera records a first view in a first position and is rotated 180 degrees to a second position to record a second view, as taught by Kang et al., in the method

Art Unit: 2612

of scanning with a camera, or Anderson in view of Chevrette et al. as a means to record a panoramic image. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include a method of scanning with a camera wherein the camera records a first view in a first position and is rotated 180 degrees to a second position to record a second view, as taught by Kang et al., in the method of scanning with a camera, or Anderson in view of Chevrette et al.


Art Unit: 2612

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
March 19, 2004


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600